

Design Resource

Silk Weaving - Bannerghatta

The Art of Weaving

by

Prof. Bibhudutta Baral, Ms. Aruna Kumari Y. and

Ms. Vijay. G.

NID, Bengaluru

Source:

<http://www.dsource.in/resource/silk-weaving-bannerghatta>

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Introduction

Bannerghatta weavers' colony is located in Gottigere village near Bangalore. The area is well noted for silk sarees weaved in handlooms and power looms. More than 50 families are engaged in silk weaving, dyeing, warping and reeling activities. There are some families who are still continuing with their traditional techniques even though now many families have shifted from handloom to power loom.

In silk weaving process, hard silk and polyester silk are refined and dyed in chemical colors. Dyed silk is processed and loaded into the handloom or power looms and weaving process takes place. The practice of silk weaving in Bannerghatta is more than 50 years old and the art is adopted from the older generation and few families are engaged in producing 'Gadwal sarees' as they are migrated from Mahbubnagar district in the state of Andhra Pradesh.



Finished silk saree with brocade zari border.



Hard silk is colored/dyed as per requirement.



Silk reeling unit.

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Artisan engaged in warping process.



Warp is loaded into the loom and being adjusted before weaving.



Artisan working with power loom.

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Weaved sari on the loom.



The finished sari of normal length is being cut from the loom.



Artisan checking and adjusting the silk thread while weaving.

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A senior artisan at weaving unit.



Group of weavers at Bannerghatta weavers' colony.

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Tools and Raw Materials

Tools

List of tools used are:

- **Reeling machine:**

The bundle of raw silk is reeled to spools using reeling machine.

- **Spinning wheel:**

The silk is spinned to spindles using spinning wheel. This tool is made of cycle wheel and very economic, as it does not consume power.

- **Fly- Shuttle:**

The spools are inserted in fly-shuttle while weaving to process weft.

- **Jacquard Machine:**

Punch Cards are loaded in the jacquard machine to create the motif design on the product.

- **Handloom:**

Manually operated weaving machine.

- **Power Loom:**

Mechanically operated weaving machine.

- **Warping Machine:**

Used to prepare warp beam.

Raw Materials:

List of raw material used are:

- Unprocessed Hard Silk is the main raw material used in silk weaving process.
- Chemical Colors are used to dye the silk.
- Diluted Acidic Acid is used in bleaching and dyeing process.
- Finishing-oil is used to add shine and luster to the colored silk.

Apart from the above major tools - Iron Rods, Huge Containers and Bamboo Sticks are also used in dyeing process.

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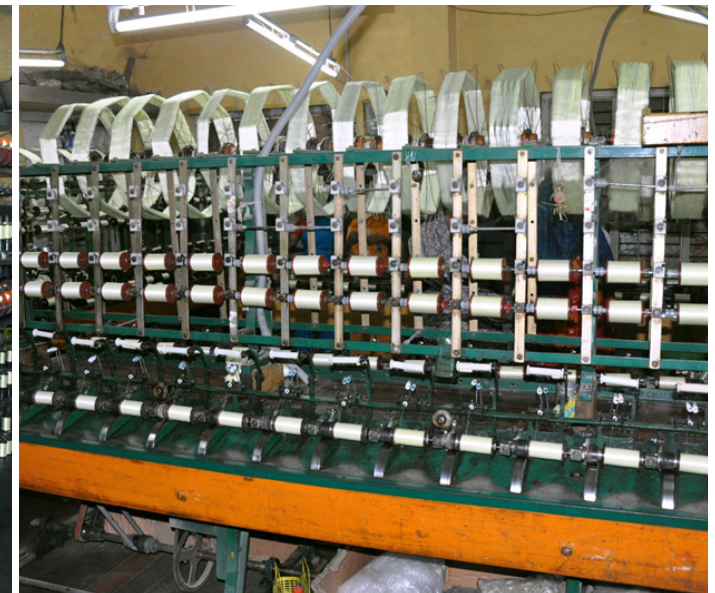
Unprocessed hard silk.



Reeling Unit.



Weavers engaged in processing and reeling the thread.



Silk double winding.

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Spindles.



Acidic acid is added in dye color solution to retain the color on the silk threads.



Dyed silk bundle.



Hand operated spinning wheel.

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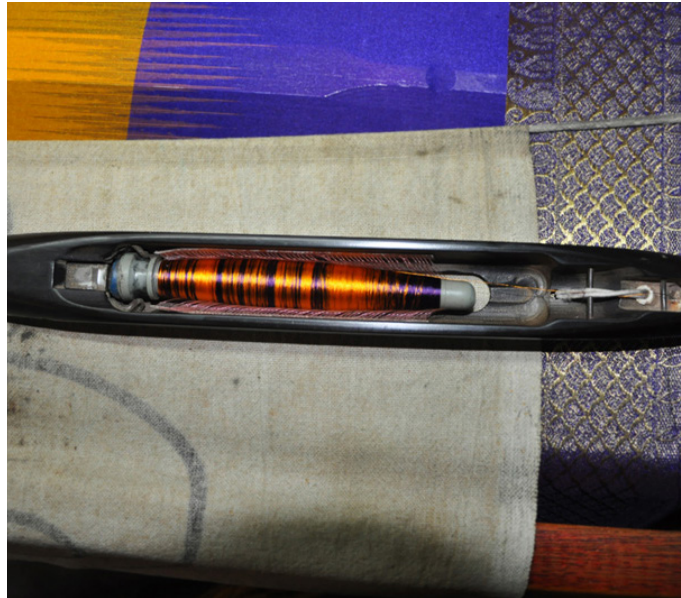
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Fly- Shuttle to process weft.



Processed Silk threads.



Warping Machine.



Iron rods used to prepare warp beam.

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Punch cards used for designing the saree.



Hand loom.



Wooden punch cards.

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Color powders used in dyeing.



Power loom.

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Reeling

A separate reeling unit is located in Bannerghatta. The silk yarn bundle is attached on the wheel of reeling machine. First the thread from the bundle is reeled to big spools. Now, two threads from two different spools are reeled together into single spool. This process is called 'Doubling'. To make the silk thread strong, the silk thread is twisted with the help of twisting machine. The twisted thread is made into lengthy warp and sent for dyeing process and spinning process.



Raw silk is brought for reeling process.



Silk thread from bundle is transferred to spool.

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The work environment in reeling unit.



Two silk strands are joined and reeled.



The thread is twisted using twisting machine.

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Silk from spools are made into warp of 50 meters length.



A cotton thread is inserted and tied for reference of breakages.



The processed silk is sent for dyeing process.

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Dyeing

Bleaching:

The silk is bleached before the coloring process in order to obtain pure white color. A small amount of bleaching powder and diluted acidic acid is mixed in cold water and the silk is washed in that solution. The washed silk is directly sent for coloring process.

Coloring:

The raw silk is directly dipped into the boiling colored solution for 5 minutes. Acidic acid is added to the solution as it helps to preserve the color permanently on the silk threads. After dyeing the silk is washed in normal cold water. At the end, the dyed silk is treated with finishing oil solution to get shine and luster. After the dyeing process the colored silk is dried in shades at room temperature.



Silk thread before the dyeing process.



Bleaching solution.

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Silk threads are treated with bleaching solution to get pure white color.



Color solution is boiled at a very high temperature.



Artisans are engaged in the dyeing process.

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Continues stirring of silk threads ensure proper application of dye color.



The silk threads of warp are divided to dye them in different colors.



After dyeing, silk threads are washed in finishing oil solution for shine and luster.

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Excess water is squished.



The silk threads are dried in shade at room temperature.

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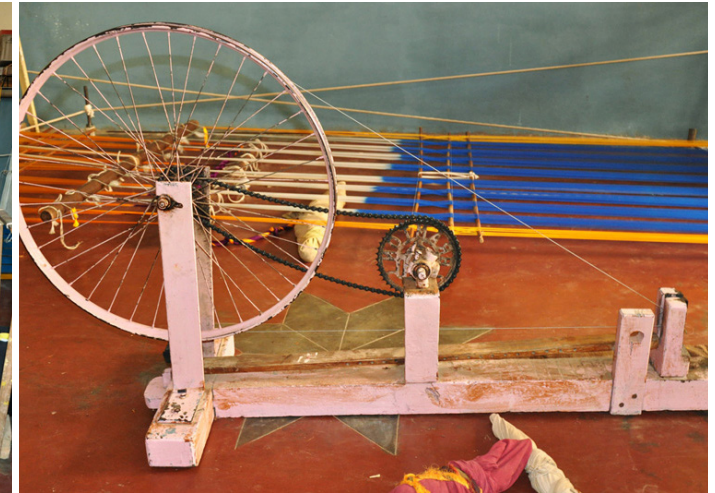
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Spinning

The colored silk thread from the spool is directly reeled to the spindle. These spindles are inserted in the fly-shuttle, which is, used in weaving. The spinning process is done to avoid entangles in the yarn and to ensure the easy weaving. Spindles of different color threads are prepared and used according to the designs of the product.



Artisan engaged in spinning process.



Spinning wheel.



Reeling the thread on the spindle through spinning wheel.



The spindles are ready for weaving.

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Warping

The colored silk yarn is first reeled to the circular shaped wooden machine. End of the threads from the reel are stretched and tied to opposite pole. Breakages in the yarn are checked and then knotted. A cotton thread is laced into the warp as it helps to trace the entangled silk threads. After examining all the breakages, the warp is reeled to the warp beam. The warping is carried out in shade at room temperature, so that the color of the silk yarn would not be sun-bleached.



The dyed silk threads are brought for warping process.



The threads are being unpacked.



Threads are rolled on to the warping wheel.



Overview of the process of rolling.

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Threads from the warping wheel are stretched between the two polls.



Breakages and knots are examined.



Artisans engaged in warping process.

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Each thread of warp is examined carefully.



The warp threads are directly passed through the reed and reeled on the warp beam.



Prepared warp beam is ready for weaving process.

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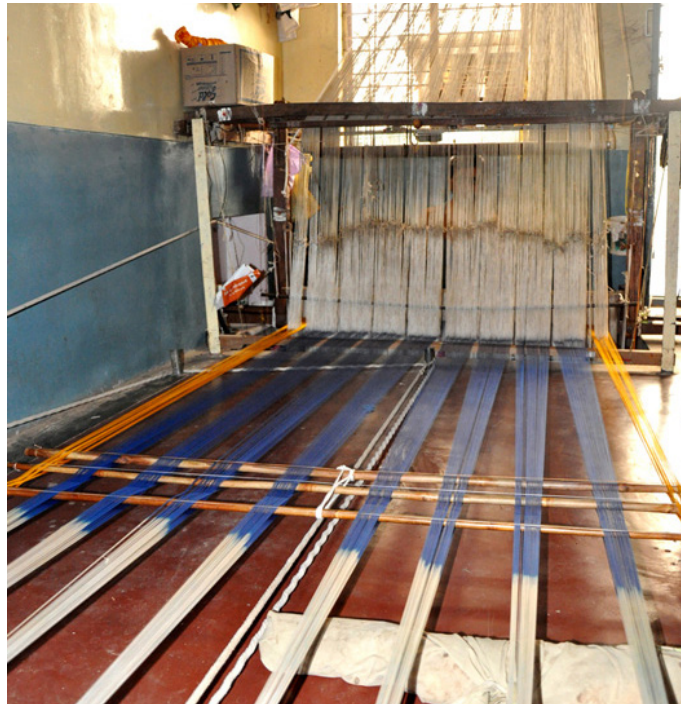
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Weaving

Silk was originally weaved/woven by hand and still happens that way. With the introduction of different kinds of power looms and mechanized reeling and tools, the process has become easier and faster. The weavers of Bannerghatta still use the handlooms of same process of loading the warp threads from warp beam onto horizontal beams and weaving with the help of a heddle and foot pedal. The fly-shuttle is inserted into the opened warp shed to process the weft. The motif designs are created by adding extra weft of Zari-golden threads. Jacquard mechanism is used to create intricate design on the sari. Weaver uses different colors of spindles according to the design and motifs. The formed cloth is reeled to the weavers beam. After weaving 6.5 meters i.e. one sari is cut and folded in a systematic manner for marketing.

It takes nearly 4 to 5 days to complete one sari using handloom system. In case of power looms, the production is faster when compared to the handlooms. The length of 10 saris warp is loaded into the loom at a time. The weaver may need help of one or two persons while working.

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Warp is loaded into the Hand loom.



Series of Punch cards are loaded into the jacquard machine.

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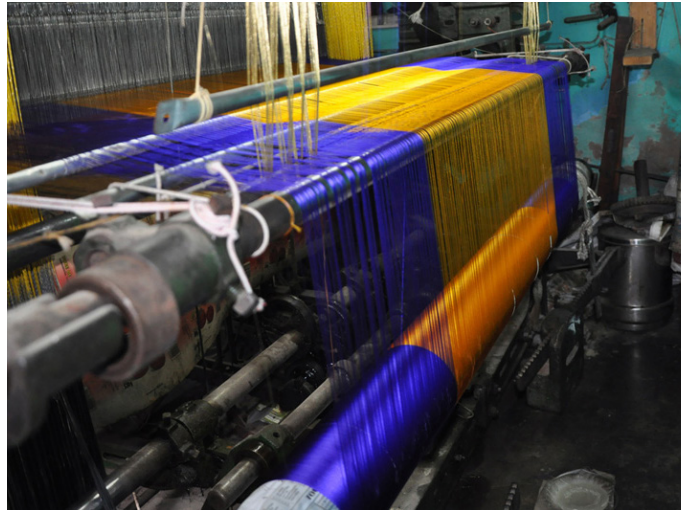
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Overview of Power loom with warp beam loaded in it.



Fly- shuttle is inserted into the warp shed.



Preparing the fly-shuttle.

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Checking the threads of warp for any damage or breakages.



Artisan working in hand loom.



Inserting the zari thread for creating the buti design.

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The designs are inserted in between while weaving.



To maintain the stiffness gum is applied on the sari.



Artisan working in power loom.

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Using a small thin iron blade the final product is removed from the loom.



Final products.

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Products

Silk sarees of different colors in bright contrast borders and pallus are prepared for the market. The design patterns are inspired by nature- flowers, leaves and birds like parrot and peacock. Few motifs include geometrical patterns and simple scattered butis all over the sari. The cost of a sari ranges from 2500 Rs. to 5000 Rs. The cost varies according to the count of silk threads used in the saree. In Bannerghatta, the silk thread count varies from 5400 to 20000.



The border design in combination of flower and mango motifs.



Saree in vibrant contrast colors in leaf motifs.



Evergreen flower motifs over/above bright blue background.



Silk saris in traditional design patterns.

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Motif designs are usually same even for low quality silk sarees.



Mixture of motifs in geometrical patterns.



Combination on white and maroon color is an ideal ware/attire for south Indian weddings.



Collection of finished products.

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This documentation was done by **Professor Bibhudutta Baral**, Ms. Aruna Kumari Y. and Ms. Vijay. G., at **NID, Bengaluru**.

You can get in touch with Professor Bibhudutta Baral at **[bibhudutta\[at\]nid.edu](mailto:bibhudutta[at]nid.edu)**.

You could write to the following address regarding suggestions and clarifications:

Helpdesk Details:

Co-ordinator

Project e-kalpa

R & D Campus

National Institute of Design

#12 HMT Link Road, Off Tumkur Road

Bengaluru 560 022

India.

Phone: +91 80 2357 9054

Fax: +91 80 23373086

Email: **[dsource.in\[at\]gmail.com](mailto:dsource.in[at]gmail.com)**

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